

Title (en)  
CONTROL VALVE

Publication  
**EP 0121600 B1 19870408 (DE)**

Application  
**EP 83112425 A 19831209**

Priority  
DE 3308574 A 19830310

Abstract (en)  
[origin: US4557294A] The invention relates to a hydraulic control valve comprising a housing with a housing bore (2) formed therein, a control piston (3) being guided in said housing bore for sliding displacement between a neutral position (n) for zero-pressure through-flow and at least one control position (I, II), and further comprising a pressure inlet (6) opening in said housing bore (2), a through-passage (8) in said control piston (3), and a discharge outlet (7) communicating with said pressure inlet via said through-passage in the zero-pressure through-flow position. In a control valve of this type, particularly if employed in a high pressure hydraulic system, displacement of the control piston from a control position to the neutral position is hampered by unsatisfactory pressure compensation. In accordance with the invention, this undesirable effect is avoided by forming substantially diametrically opposite said discharge outlet (7) a relief area (9, 9', 16, 17, 18, F26) compensating at least the effective area of said discharge outlet and being of substantially the same size as the discharge outlet and subjected to the same pressure as the latter. For ensuring effortless displacement of the control piston of an upstream control valve from its neutral position in a battery-type arrangement of a plurality of control valves even if a downstream control valve is in its control position, there is further provided an area (33) compensating the effective area of the relief area (9, 9', 16, 17, 18, F26) said compensating area communicating with return pressure at least in the neutral position (N).

IPC 1-7  
**F16K 11/06**; **F16K 39/04**; **F15B 13/04**

IPC 8 full level  
**F15B 13/04** (2006.01); **F16K 11/06** (2006.01); **F16K 11/065** (2006.01); **F16K 11/07** (2006.01); **F16K 39/04** (2006.01)

CPC (source: EP US)  
**F15B 13/04** (2013.01 - EP US); **F16K 11/065** (2013.01 - EP US); **F16K 39/04** (2013.01 - EP US); **Y10T 137/86702** (2015.04 - EP US); **Y10T 137/87185** (2015.04 - EP US)

Cited by  
EP0825349A1

Designated contracting state (EPC)  
AT BE CH DE FR GB IT LI LU NL SE

DOCDB simple family (publication)  
**EP 0121600 A1 19841017**; **EP 0121600 B1 19870408**; AT E26477 T1 19870415; DE 3308574 A1 19840913; DE 3370852 D1 19870514; JP H0514145 B2 19930224; JP S59170574 A 19840926; US 4557294 A 19851210

DOCDB simple family (application)  
**EP 83112425 A 19831209**; AT 83112425 T 19831209; DE 3308574 A 19830310; DE 3370852 T 19831209; JP 4223484 A 19840307; US 57172884 A 19840118